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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,426	07/03/2003	Vikram Devdas	CISCP816	5113

54406 7590 07/25/2005

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EXAMINER	
TSEGAYE, SABA	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,426	DEVDAS ET AL.	
	Examiner	Art Unit	
	Saba Tsegaye	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed on 01/05/05. Claims 1-23 are pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 112

2. Claims 12-14 and 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12, line 5, it is not clear whether the phrase "an identification tag" refers to the same an identification tag cited in line 2.

Claim 21, line 6, it is not clear whether the phrase "an identification tag" refers to the same an identification tag cited in line 2.

Claim Rejections - 35 USC § 103

3. Claims 1-4, 8-11 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 2003/0074449) in view of Ghose et al. (US 2002/0004842).

Regarding claims 1, 8 and 17, Smith discloses, in Figs 3-5, a method for efficiently transmitting GFP-encapsulated client data frames from a local transport interface (NE1) and at least one local port (CX) associated therewith across a SONET/SDH transport network (120) to a remote transport interface (NE2) and at least one remote port (XC) associated therewith, the

remote transport interface (NE2) having a buffer (226) for holing the GFP-encapsulated client data frames received across the SONET/SDH transport network (120).

Further, Smith discloses a buffer-to-buffer flow control that regulates traffic along a link between the transmitter port and the receiver port by controlling the rate at which the transmitter can send data to the receiver (claimed receiving information from the remote transport interface). The transmitter is able to transmit a frame along a link only if the receiver has indicated it can accept the frame. The receiving port controls the transmission of frames by giving permission to the sending port to send one or more frame to that particular receiving port (claimed transmitting more GFP client data frames responsive to the information). Each port keeps track of the buffer credit count, which is initialized to zero. For each frame transmitted, the credit count is incremented by one, and for each frame received, the credit count is decreased (claimed tracking the number of GFP-encapsulated client data frames). Smith, further, discloses that the data packet protocol rules dictate that the number of packets in transit on the link cannot exceed the buffer credits assigned to the link. This ensues that the buffer does not overflow (0093) (claimed without consideration of loss or corruption of encapsulated client data frames so that the SONET/SDH transport network from the local transport interface to the remote transport interface is efficient utilized).

However, Smith does not disclose a flow control based on the number of bytes available in the remote transport interface buffer.

Ghose teaches buffer-to-buffer credits for implementing flow control based on the number of bytes received successfully (page 4, 0055-0057) and tracking the number of bytes of

GFP-encapsulated client data frames in transit from the local transport interface to the remote transport interface (0057-0062).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching from Ghose of a flow control based on the number of bytes to the frame based protocol networks disclosed by Smith. The suggestion/motivation for doing so would have been that Smith discloses on column 5, paragraph 0093 "the number of packets in transit on the link cannot exceed the buffer credits assigned to the link", therefore combing the flow control base on the number of bytes with the number of packets in transit on the link cannot exceed the buffer credits assigned to the link would greatly improved end-to-end latency and implement reliable delivery (0054).

Regarding claims 2, 3, 9, 10, 18 and 19, Smith discloses the method wherein the client data comprises Fiber Channel signals and gigabit Ethernet signals (page 2, 0033-0035).

Regarding claims 4, 11 and 20, Smith discloses the method wherein the receiving step further comprises: initially negotiating with the remote transport interface for the total amount of space in the buffer reserved for GFP-encapsulated client data frames received from the local transport interface (page 8, 0144-0156).

4. Claims 5-7, 12-16 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. in view of Ghose et al. as applied to claims 1, 8 and 17 above, and further in view of Tate et al. (US 2003/0185223).

Smith in view of Ghose discloses all the claim limitations as stated above. Further, Smith discloses a frame oriented client signal such as a Fiber Channel or Ethernet signal. According to the IEEE standard 802.1Q Ethernet frames are tagged. However, Smith does not expressly disclose sending/receiving an identification tag for each of the GFP-encapsulated client data frames.

Tate teaches a GFP encapsulation scheme to a provider device being arranged for exchanging tagged frames with a bridge having at least two Ethernet interfaces (0031-0037).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teaching from Tate of exchanging tagged frames to the system disclosed by Smith in view of Ghose. The suggestion/motivation for doing so would have been that Smith discloses a frame oriented client signal such as a Fiber Channel or Ethernet signal, therefore combing the identification tag with a frame oriented client signal would allow a particular Ethernet interface to be informed of a failure on a corresponding service unit port (0029).

Response to Arguments

5. Applicant's arguments filed 01/05/05 have been fully considered but they are not persuasive. Applicant argues (Remarks; page 7) that "no explanations given as to why the Ghose patent which teaches a transport system for LANs is to be combined with the long haul SONET/SDH networks. These are different types of networks with different requirements." Examiner agrees with Applicant that Smith and Ghose reference teach different types of networks. However, the primary reference (Smith) discloses a buffer-to-buffer flow control mechanism **over a packet oriented** (SDH/SONET) transmission network except for a flow

control based on the number of bytes. Ghose teaches **buffer-to-buffer credits (over a packet oriented transmission network)** for implementing **flow control** based on the number of **bytes** received successfully. Ghose reference is used to show how **bytes** are used for implementing flow control over a packet oriented transmission network. The combination of Smith reference and Ghose reference is proper and therefore, the rejection is maintained.

Further, Applicant argues (Remarks, page 8) that Ghose patent teaches **the use of NAKs to handle loss or corruption of packets in its TCP/IP based network protocol. Unlike these systems, the present invention uses a credit mechanism for end-to end flow control.** It is respectfully submitted that the rejection is based on the combined teaching of the Smith patent and the Ghose patent, and that the Smith patent, as pointed out above does teach this feature.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
July 16, 2005

JOHN PEZZLO
PRIMARY EXAMINER